State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801
801-538-5340
801-359-3940 (Fax)
801-538-7223 (TDD)

Michael O. Leavitt
Governor
Lowell P. Braxton
Division Director

September 29, 1998

Lon Thomas
American Stone, Inc.
4040 South 300 West
Salt Lake City, Utah 84107

Re: Initial Review of Notice of Intention to Commence Large Mining Operations, American Stone, Inc, Cotton Thomas Quarry, M/003/024, Box Elder County, Utah

Dear Mr. Thomas:

The Division has completed a review of your draft Notice of Intention to Commence Large Mining Operations for the Cotton Thomas quarry, located in Box Elder County, Utah. Your application was originally received on January 12, 1998. The Division has identified a number of technical deficiencies which will need to be addressed before we can consider issuing tentative approval of your mining proposal. Our attached comments are listed under the applicable Minerals Rule heading. Please format your response in a similar fashion.

It is our understanding that you have recently purchased the Nelsons Quartzite (S/003/036) and the Nelsons Quarry (S/003/041) which are located immediately adjacent to your Autumn Gold Quarry. Please note, that before the Division can authorize you to conduct mining operations on these mine sites, you will need to formally transfer these permits to American Stone, Inc. Because of the close proximity of these sites to your Cotton Thomas project area, you will likely need to amend the Cotton Thomas Large Mining Notice to include these areas.

The Division will suspend further review and processing of the Cotton Thomas Large Mining Notice until your response to this letter is received. If you have any questions in this regard please contact me, Tony Gallegos, Lynn Kunzler, or Tom Munson of the Minerals Staff. If you wish to arrange a meeting to sit down and discuss this review, please contact us at your earliest convenience. Thank you for your cooperation in completing this permitting action.

Sincerely,

D. Wayne Hedberg

D. Wayne Hedberg
Permit Supervisor
Minerals Regulatory Program

jb
Attachment: Review
M003024.rvw

REVIEW OF NOTICE OF INTENTION TO COMMENCE LARGE MINING OPERATIONS

American Stone, Inc.
Cotton Thomas Quarry

M/003/024
(9/29/98)

R647-4-105 - Maps, Drawings & Photographs

105.1 Topographic base map, boundaries, pre-act disturbance and 105.2 Surface facilities map

The maps provided do not show sufficient detail or a clear boundary for areas that are being impacted by mining operations, including quarry areas, dump areas, and proposed expansion of the various quarry areas. At the size drawn on the maps, the quarry areas collectively would be approximately 35 acres. Please provide a scaled surface facilities map for each quarry site which includes a clear boundary for the existing disturbances and any proposed disturbances.

105.3 Drawings or Cross Sections (slopes, roads, pads, etc.)

No cross-sections or profiles were provided for the roads, quarry areas and dump areas. At a minimum, one cross section of each quarry area and dump area needs to be provided showing pre-mine slope profiles, existing slopes and proposed final reclaimed slope configurations. If quarry area and dump area slopes appear to be uniform at each site, then one typical cross section for the area will suffice. If slope varies across the quarry or dump area, or if there is significant difference in the highwall configurations within each quarry, then additional cross sections will be needed to adequately describe these differences. Typical cross sections of each access/haul road are also needed.

Both Map #2 and #3 are referred to for reclamation treatments. These maps do not contain sufficient detail to determine which reclamation treatments will be applied to each area, or for which areas variances are requested. Please provide a reclamation map which clearly identifies the areas for which each reclamation treatment will be applied and the area for which each variance is requested.

R647-4-106 - Operation Plan

106.3 Estimated acreages disturbed, reclaimed, annually.

The NOI contains an estimated acreage of mining, overburden/waste dumps and access/haul roads. This acreage is presumed to be what exists currently. An estimate of how many acres will be disturbed annually for at least the next 5 years is needed, as well as identifying any acreage that would be reclaimed during the 5-year period. Please note, the NOI would need to be updated and amended at the end of the same 5-year period to project the next 5-year period

of mining. Regardless, before expanding beyond that acreage or moving into new areas not included in the NOI, the NOI would need to be amended and the amendment approved prior to such expansion.

106.6 Plan for protecting & redepositing soils

The NOI identifies acceptable soil resource protection for soils found along the roads. However, there is no discussion of how soils will be salvaged or saved and protected for new quarry or waste dump areas (quarry or waste dump expansion). This needs to be included in the NOI. The original Notice for a Small Mining Operation requested a variance for salvaging topsoil at the Autumn Gold Quarry. This variance was granted, due in part to the operator stating that borrowed topsoil would be used for reclamation. The location of the borrow area needs to be provided, as well as the estimated volume of soil material that will be needed for reclamation. It is recommended that a minimum 6 inches of topsoil be used over the areas being reclaimed. Extremely rocky areas (i.e., waste rock dump slopes) may require more soil cover to achieve successful reclamation.

106.9 Location and size of ore and waste stockpiles, tailings and treatment ponds, and discharges.

The NOI refers to Map #2 for the location and size of proposed waste dumps. The narrative states that the total acreage of all dumps is 7 acres. As stated earlier, this map is not of sufficient detail in showing the location or the size of each of the proposed dumps. Please provide a map which clearly identifies the size and location of each existing dump, the size of any proposed expansion of the existing dumps, and the location and size of any proposed dumps. Also please clarify whether the 7 acres refers to the size of the existing dumps, or the extent of all dumps for the term of the permit.

R647-4-107 - Operation Practices

107.1 Public safety & welfare

107.1.12 Disposal of trash, scrap, debris

Please describe how trash, scrap and debris will be disposed of. If it is disposed of on-site, provide evidence that a permit from the County Health Department has been approved for this disposal.

107.1.15 Berms, fences or barriers above highwalls

The NOI does not include plans to fence, berm or otherwise provide barriers to protect the public from highwalls. The rationale for not providing additional protection is that the quarry areas are on private lands to which access for the general public is restricted. The Division has approved a 12-foot highwall at the Autumn Gold quarry.

If highwalls are to be left at other quarry areas, variances will need to be requested for each area. Please refer to R647-4-12 Variances, for additional detail.

107.4 Deleterious material safety stored or removed

Please note that all fuels and oils stored on-site must be stored in secondary containment structures that have a capacity of 110% of the storage container (i.e. the 2,000 gallon fuel tank would need to be in a secondary containment structure that has a minimum 2,200 gallon capacity). Please describe the secondary containment for the fuel and oil storage areas.

107.5 Suitable soils removed & stored

This section is adequately addressed for the roads. However, documentation for the requested variance for not salvaging topsoil for the quarry areas needs to be provided. Simply stating that the soil is too thin and rocky to recover is not sufficient documentation to approve the requested variance. Soil removal and storage was not discussed for areas of the waste dumps.

107.6 Concurrent reclamation

The NOI identifies road segments between the Buckskin and Autumn Gold quarries will be reclaimed. No time frame was identified for completing this reclamation work. Please provide a time frame for completing this reclamation work.

Are there any other areas that can or will be reclaimed within the initial permit term (5 years)? If so, these areas need to be identified on a reclamation map.

R647-4-109 - Impact Assessment

109.2 Impacts to threatened & endangered wildlife/habitat

The wooded area to the east of the Buckskin Quarry provides habitat for protected wildlife species of interest (hawks). Please provide plans to protect (or avoid disturbance to) this unique wildlife habitat.

R647-4-110 - Reclamation Plan

110.2 Roads, highwalls, slopes, drainages, pits, etc., reclaimed

The NOI does not contain design criteria or cross sections to demonstrate long-term stability of roads, highwalls and waste dumps (refer to R647-4-105.3). Until this information is submitted and long-term stability demonstrated, the requested variances for roads, highwalls and waste dumps cannot be granted.

110.3 Description of facilities to be left (post-mining use)

The NOI requests that all roads and the camp area remain for post-mining access for ranching purposes. Please demonstrate (provide written justification) that *all* roads and the camp area are needed for this post-mining land use.

110.4 Description or treatment/disposition of deleterious or acid forming material

The NOI states that fuel, oil, and grease will be used to operate the machinery. How will used oils be disposed of? Please provide documentation that the Box Elder County has approved burning of garbage on-site.

110.5 Revegetation planting program

Without the use of topsoil, it is unlikely the revegetation standard can be met without the use of amendments. It is recommended that a minimum of 10 ton per acre of composted manure be applied prior to scarification and seeding. This should help assure revegetation success in these areas if sufficient topsoil resources are not available. (This would apply if the requested variance to not salvage topsoil from the quarry and dump areas is granted. Otherwise, plans to salvage topsoil and to redistribute a minimum of 6 inches of topsoil need to be provided).

The species identified for revegetation are acceptable for this site. However, the rate of seeding for each species needs to be provided in the NOI. Attached to this review are the recommended rates for the species identified. If these rates are acceptable, please acknowledge. Otherwise, provide alternative rates for review and approval.

R647-4-111 - Reclamation Practices

1.12 Disposal of trash & debris

See comments under R647-4-110.4

111.4 Removal/storage of deleterious material

See comments under R647-4-110.4

111.6 All slopes regraded to stable configuration

See comments under R647-4-110.2

111.7 Highwalls stabilized at 45 degrees or less

See comments under R647-4-110.2

111.8 All roads & pads reclaimed

See comments under R647-4-110.2 and 110.3

111.11 Structures & equipment buried or removed

See comments under R647-4-110.4

111.12 Topsoil redistribution
If the Division grants the requested variance to leave roads (any or all), please describe how the topsoil that is stored in the berm along the road will be moved and utilized for reclamation of other areas (pads, dumps, etc.).

R647-4-112 - Variance

The NOI requests a topsoil salvaging variance from the quarry areas stating that it is too rocky and too sparse. As stated earlier (under R647-4-107.5), the operator will need to provide additional documentation to justify this request. It is assumed that this request is also for the waste dump areas since they are adjacent to the quarry areas. If this assumption is correct, it needs to be clarified in the NOI. A variance for not salvaging topsoil for the Autumn Gold Quarry was granted on September 28, 1994. The variance was granted, in part, due to the operator stating that he had a topsoil 'borrow' source for reclamation. The location and size of the borrow area needs to be provided and identified on an appropriately scaled map. Will borrowed topsoil be used on the other quarry and dump areas for which this variance is requested?

The NOI requests a variance for leaving highwalls. Justification includes statements that the approximately 20-foot high cliffs will not have any danger of slope failure due to its limited height and the integrity of the country rock and that the country has natural vertical cliffs that will blend in. A variance has already been granted for the Autumn Gold Quarry (on September 28, 1994) to leave a 12-foot highwall. Natural cliffs have not been observed at the location of any of the other quarry areas except the Granite Quarry area. A geologic analysis showing strike and dip and location of any faults and fractures is needed to determine stability of the proposed 20-foot highwalls. This must be provided before the Division can approve this variance.

The NOI requests a variance for leaving all dump slopes steeper than 45% (percent), stating that the recontoured dump slopes would be slightly steeper than the natural hill (50% (2h:1v)). The Division does not require a variance to be granted for these slopes.

R647-4-113 - Surety

The proposed surety estimate provided in the NOI is not adequate. Please provide specific detail regarding the amount of materials moved, acres needing to be ripped and or regraded, time needed for each piece of equipment needed for reclamation and other means used to determine the cost for each task in the reclamation schedule. Please note, the Division must use 'third party' costs for determination of the bond amount. It is recommended that you contact the Division to discuss bonding requirements and costs prior to completing the reclamation surety estimate. Attached is a generic reclamation estimate spreadsheet to assist in calculating the reclamation surety.

Attachments: Seedmix
Generic Reclamation Spreadsheet

Recommended Revegetation Species List
for

American Stone Company
Cotton Thomas Quarry
M/003/024

Common Name	Species Name	*Rate lbs/ac (PLS)
Thickspike wheatgrass	Agropyron dasystachum	2.0
Bluebunch wheatgrass	*Agropyron spicatum*	2.0
Intermediate wheatgrass	*Agropyron intermedium*	1.0
'Piute' orchard grass	*Dactylis glomerata*	0.5
Basin Wildrye	*Elymus cinereus*	2.0
Ladac Alfalfa	*Medicago sativa*	1.0
Yellow sweetclover	*Melilotus officinalis*	0.5
Rocky mountain penstemon	*Penstemon strictus*	0.5
Small burnet	*Sanguisorba minor*	1.5
Wyoming big sagebrush	*Artemisia tridentata wyomingensis*	0.1
Serviceberry	*Amelanchier alnifolia*	1.0
Forage kochia	*Kochia prostrata*	0.5
Bitterbrush	*Purshia tridentata*	1.0
	Total	13.6 lbs/ac

*(Broadcast seeding rate)

RECLAMATION SURETY ESTIMATE (o:/data/bonding/mine-bnd.wb2)

Operator Name last revision 04/10/98

Mine Name *filename M000-000.WB2* page "ESTIMATE"

DOGM file number *County*

Prepared by Utah State Division of Oil, Gas & Mining

-Insert details of reclamation here

Note: actual unit costs may vary according to site conditions ***last unit cost update*** ***04/18/97***

-Amount of disturbed area which will receive reclamation treatments = 0.0 **acres**

-Estimated total disturbed area for this mine = 0.0 **acres**

Activity	Quantity	Units	$/unit	$	Note
Safety gates, signs, etc. (mtls & installation)	0	sum	200	0	(1)
Demolition of buildings & facilities	0	CF	0.23	0	(2)
Debris & equipment removal - trucking	0	trips	48	0	(3)
Debris & equipment removal - dump fees	0	CY	6	0	(4)
Debris & equipment removal - loading trucks w/FE loader	0	hours	166	0	(5)
Demolition & debris removal - general labor	0	hours	15	0	(6)
Regrading facilities areas	0.0	acre	415	0	(7)
Regrading waste dump slopes	0	CY	0.32	0	(8)
Ripping waste dump tops	0.0	acre	363	0	(9)
Ripping stockpile & compacted areas	0.0	acre	363	0	(9)
Ripping pit floors	0.0	acre	363	0	(9)
Ripping pit access roads	0.0	acre	363	0	(9)
Creating safety berms or barriers around highwalls	0	LF	0.10	0	(10)
Ripping access roads - dozer	0.0	acre	363	0	(9)
Regrading access roads - dozer	0.0	acre	415	0	(7)
Sidecast mtl replacement on steep roads- trackhoe	0	LF	0.85	0	(11)
Surface drainage restoration or construction	0	LF	0.10	0	(10)
Topsoil replacement - dozer	0	CY	0.40	0	(12)
Topsoil replacement - scraper	0	CY	1.01	0	(13)
Topsoil replacement - truck & FE loader	0	CY	1.99	0	(14)
Mulching (2 ton/acre alfalfa)	0.0	acre	160	0	(00)
Fertilizing (100 lb/acre diammonium phosphate)	0.0	acre	90	0	(00)
Broadcast seeding (~20 lb/acre)	0.0	acre	170	0	(00)
Drill seeding (~13 lb/acre)	0.0	acre	150	0	(00)
Hydroseeding	0.0	acre	800	0	(00)
General site cleanup & trash removal	0.0	acre	50	0	(00)
Equipment mobilization	0	equip	1000	0	(00)
Reclamation Supervision	0	days	356	0	(15)
		Subtotal		0	
10% Contingency				0	
		Subtotal		$0	
Escalate for 5 years at 2.24% per yr				0	
		Total		$0	
		Rounded surety amount in yr 2003-$		**$0**	

Average cost per disturbed acre = ERR